

D6101-001

Work Order ID 150704***150704***

Page 1

Monday, August 29, 2016 3:04:00 PM

Item ID: D2939-2RLC Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle RH In, 206
 Start Date: 8/18/2016 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 8/29/2016 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: **DAS 21** Date: **AUG 30 2016** Tooling: Date: Run Start ***NR1***
 QC: **9-89** Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2939	Rev C								
100	HAAS CNC VERTICAL MACHINING #1	0.08							DAS 08 9-89
100									
HAAS 1	Memo	0.30							
HAAS CNC vertical machine #1	Program part number and batch number. 1-Inspect part number and batch number are programmed correctly. 2-Machine Step No 1 of Folio and visually inspect as per dwg D2939 & attached Dimension Sheet 3-Machine Step No 2 of Folio and visually inspect as per								
110	CONVENTIONAL MILLING MACHINE	0.00							DAS 08 9-89
110									
Mill Conv	Memo	0.00							
Conventional Milling Machine	Machine Keyway and inspect per attached dimension sheet								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : _____			

Work Order ID 150704

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150704

Page 2

Item ID: D2939-2RLC Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Saddle RH In, 206
Start Date: 8/18/2016 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 8/29/2016 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC1 Inspection performed by CMM QC2 Memo	0.00 0.00		B.A 16/09/24		4	0		DAS 08 9-89
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.01				4	0		DAS 44 9-89 16-09-25
140 *140* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.03				(X4FH)			2016/09/26 BEB.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

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[illegible]

QA Closed: _____ Date: _____		work Order update only									
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
		Rework	☐	Skid-tube	☐	Cross tube	☐	Water Jet	☐	Engineering	☐
		Scrap	☐	Machining	☐	Small Fab	☐	Prod. Eng. Coord.	☐	Quality	☐
		Use-as-is	☐	Thermoforming	☐	Finishing	☐	Rec/Store/Packaging	☐	Other	☐
		Suspected Unapproved	☐	Large Fab	☐	Composite	☐	Supplier	☐		
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval					
Description Work Order Deviation		Disposition									
				Completed By							
				Lead hand / Supervisor Approval Verification							
				QC / QA Coordinator Approval							
Root Cause		FAULT CATEGORY									
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____							
Misidentified	☐	Past Due	☐								

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Reference:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	QC21- Final Inspection - Work Order Release	0.00							DEC 05 2016

180

QC

Memo

0.03

Quality Control

DAS
21
9-89

DEC 05 2016

mf
16-12-07

QA Closed:		Date:		work Order update only			
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS			
				Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :		Step #:		QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition					
							
Root Cause		FAULT CATEGORY					
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER :	

Picklist Print

Monday, August 29, 2016 3:03:59 PM

Page 1

Work Order ID: 150704

150704

Parent Item: D2939-2RLC

D2939-2RLC

Parent Item Name: Saddle RH In, 206

Start Date: 8/18/2016

Required Date: 8/29/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP: B 00.06.26 New DWG rev (mpp 2069)EC
IPP Rev:C As per Rev C 07-03-19 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6101-001		Manufactured	No			100	Each	27.0000	1	2			
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D6101-001

Saddle Billet

L. 16/09/24

Location

Loc Qty

Loc Code

MAT042

27

→ 145262

7

→ 147677

20

1.0

3.0

QA Closed: _____		Date: _____		Work Order update only							
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS							
				Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐		Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐		Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐		Engineering ☐ Quality ☐ Other ☐	
Date : _____		Step #: _____		QTY Effective : _____				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval			
Description Work Order Deviation				Disposition							
Root Cause		FAULT CATEGORY									
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐					
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐					
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐					
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐					
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐					
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐					
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐					
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐					
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐					
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐					
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : _____								
Misidentified ☐	☐	Past Due ☐									

DART AEROSPACE LTD				Work Order: 150704	
Description: 206 Saddle, Inboard, Right side				Part Number: D2939-2	
Inspection Dwg: D2939 Rev: C DSK: Rev:				Page 1 of 1	

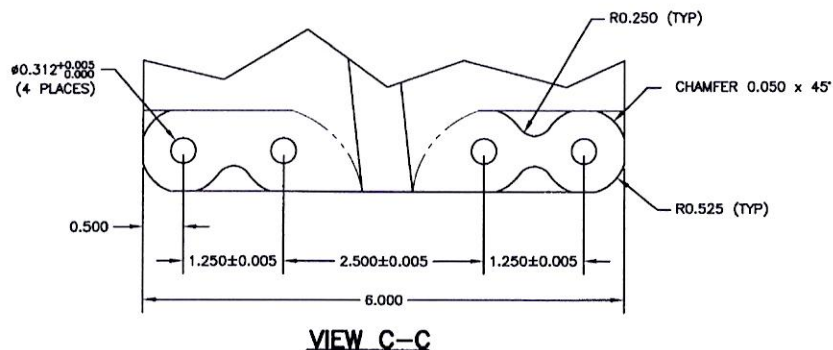
FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ **First Article**
☐ **Prototype**

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	5
A	0.100	0.140		0.113	0.115	0.113	0.114	
B	0.100	0.140		0.115	0.116	0.113	0.113	
C	0.100	0.140		0.110	0.115	0.115	0.116	
D	0.210	0.230		0.219	0.226	0.226	0.223	
E	1.245	1.255		1.250	1.250	1.250	1.250	
F	1.245	1.255		1.250	1.250	1.250	1.250	
G	2.495	2.505		2.500	2.500	2.500	2.500	
H	0.510	0.515		0.512	0.512	0.512	0.512	
I	1.572	1.582		1.577	1.577	1.577	1.577	
J	2.495	2.505		2.500	2.500	2.500	2.500	
K	0.257	0.262		0.258	0.258	0.258	0.258	
L	0.312	0.317		0.314	0.314	0.314	0.314	
M	0.235	0.240		0.236	0.236	0.237	0.237	
N	0.100	0.140		0.117	0.118	0.118	0.118	
O	0.540	0.560		0.551	0.551	0.551	0.551	
P	0.490	0.510		0.499	0.500	0.500	0.502	
Q	3.715	3.725		3.720	3.720	3.720	3.720	
R	2.720	2.760		2.740	2.740	2.740	2.740	
S	0.240	0.270		0.256	0.257	0.257	0.257	
T	0.100	0.180		0.127	0.127	0.127	0.127	
U	1.625	1.635		1.630	1.630	1.630	1.630	
V	1.362	1.372		1.367	1.367	1.367	1.367	
W	0.316	0.321		0.316	0.316	0.316	0.316	
X	1.250	1.270		1.260	1.260	1.260	1.260	
Y	1.565	1.585		1.575	1.575	1.575	1.575	
Z	0.178	0.198		0.188	0.188	0.188	0.188	
AA								
AB								
AC								
AD								
Accept/Reject								

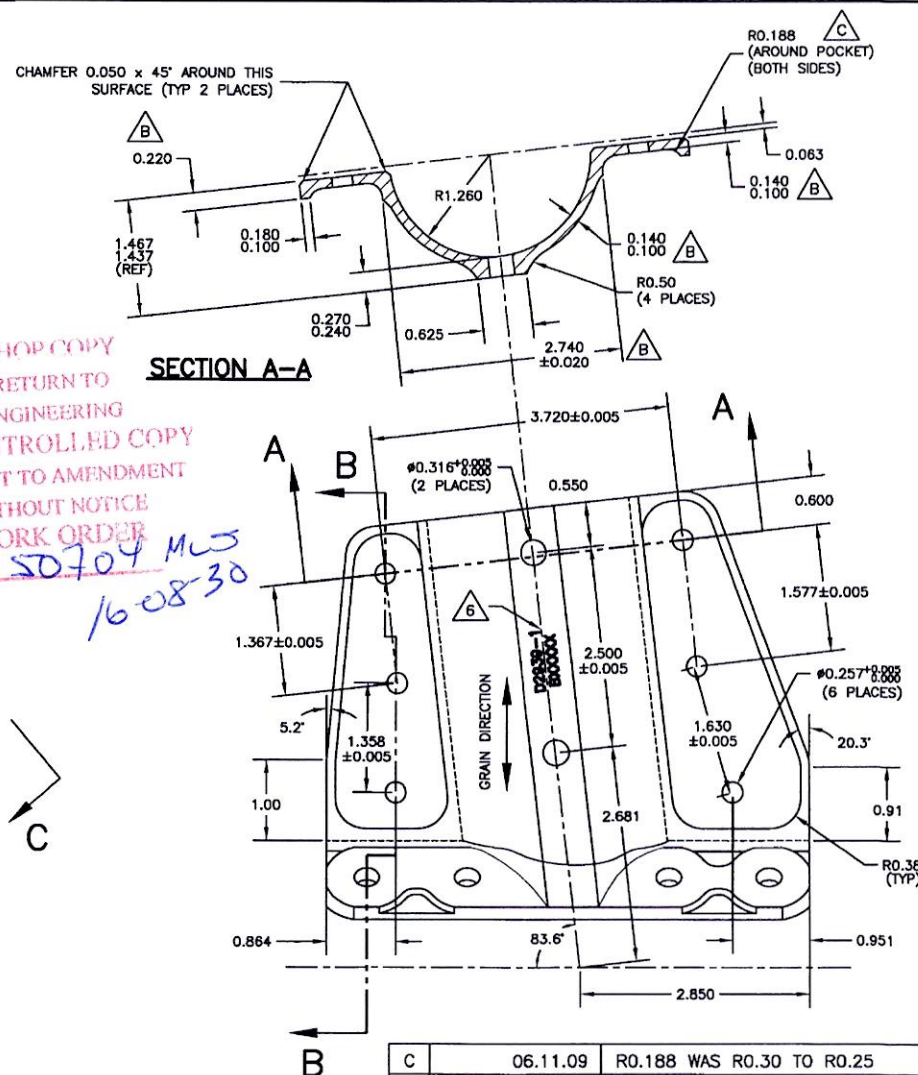
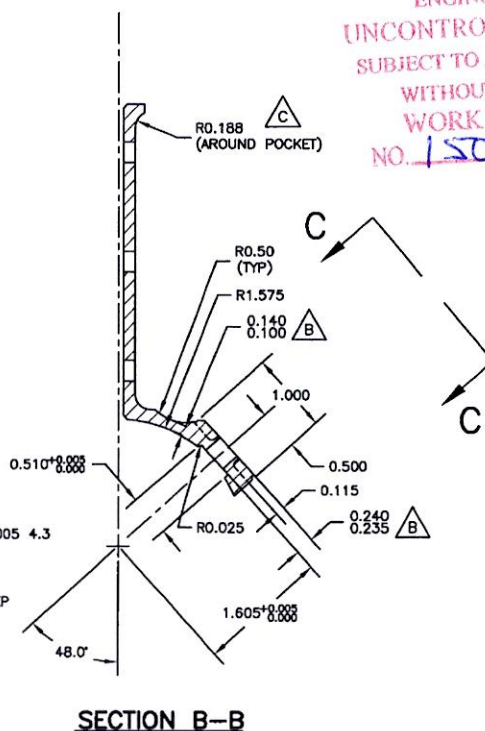
Measured by: J.e	Date: 16/09/24
Audited by: F.k	Date: 16/09/25
Prototype Approval: N/A	Date: N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.12.12	Re-format; Added Dim. X-Y, DT8683, DT8686, DT8690 & DT8695 A/B	KJ/RF	
C	07.03.21	Revised per drawing revision C	KJ/JLM	
D	07.11.23	DT8695 A/B removed	KJ/EC/DD	



D2939-1 LH SADDLE (SHOWN)
D2939-2 RH SADDLE (OPPOSITE)

- NOTES:**
- 1) MATERIAL: ALUMINUM 7075-T7351 (QQ-A-250/12)
(MAKE FROM D6101-001 SADDLE BILLET, 7075)
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
 - 3) BREAK ALL SHARP EDGES 0.010 TO 0.020
 - 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 5) ALL DIMENSIONS ARE INCHES
 - 6) ENGRAVE PART AND BATCH NUMBER IN THIS AREA 0.010 TO 0.015 DEEP



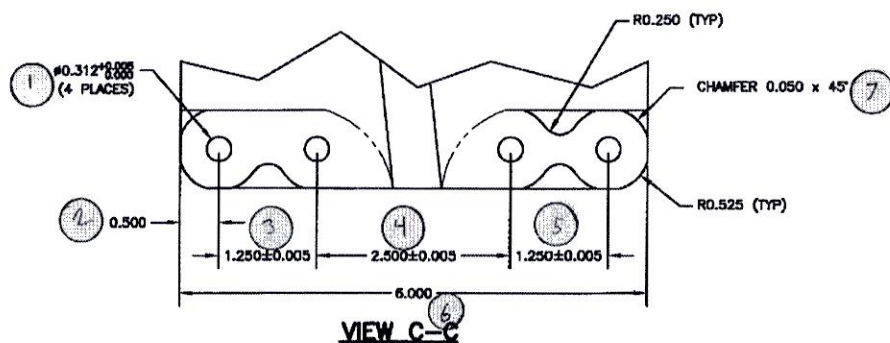
SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 150704 MJS
 16-08-30

C	06.11.09	R0.188 WAS R0.30 TO R0.25
B	00.05.29	CHANGED DEOMETRY AND MATERIAL
A	99.11.12	NEW ISSUE
DESIGN	PH	DRAWN BY CB
CHECKED	PH	APPROVED
DATE	06.11.09	TITLE SADDLE INSIDE
DRAWING NO.	D2939	REV. C
SHEET 1 OF 1		SCALE 2:3

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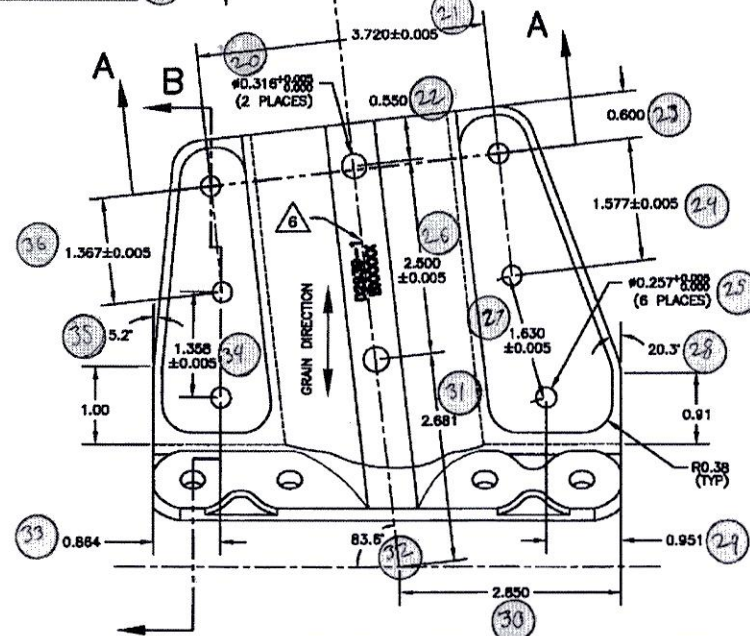
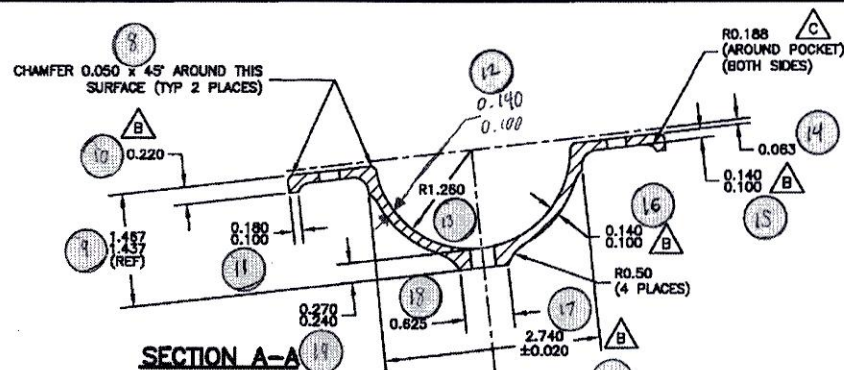
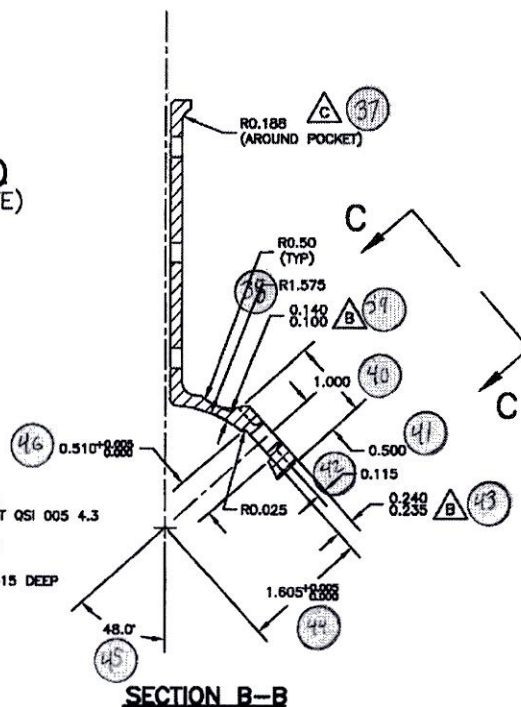
DART DART AEROSPACE USA, INC.
 BELLEVUE, WA



D2939-1 LH SADDLE (SHOWN)
D2939-2 RH SADDLE (OPPOSITE)

NOTES:

- 1) MATERIAL: ALUMINUM 7075-T7351 (Q9-A-250/12)
 (MAKE FROM D6101-001 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
 POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- 3) BREAK ALL SHARP EDGES 0.010 TO 0.020
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE INCHES
- 6) ENGRAVE PART AND BATCH NUMBER IN THIS AREA 0.010 TO 0.015 DEEP



C	06.11.09	R0.188 WAS R0.30 TO R0.25
B	00.05.29	CHANGED DEOMETRY AND MATERIAL
A	99.11.12	NEW ISSUE
DESIGN	4	DART DART AEROSPACE USA, INC.
CHECKED	PH	DRAWING NO. D2939
DATE	06.11.09	TITLE SADDLE INSIDE
		REV. C SHEET 1 OF 1 SCALE 2:3

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